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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,785	12/22/2000	Juerg Leuthold	4-1	1669

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EXAMINER

PHAN, HANH

ART UNIT PAPER NUMBER

2633

DATE MAILED: 11/19/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/745,785

Applicant(s)

LEUTHOLD ET AL.

Examiner

Hanh Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7 and 8 is/are rejected.
- 7) ☒ Claim(s) 2,5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature "said coupling section comprises a photodiode" in claim 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of

copending Application No. 09/871,393 (Leuthold). Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-8 of the instant application are encompassed by claims 1-21 of copending Application No. 09/871,393 (Leuthold).

Regarding claim 1, Leuthold discloses a method of optical signal regeneration comprising the steps of:

generating a phase and amplitude encoded clock signal from at least an input optical signal;

introducing the encoded clock signal into a delay interference section of the regenerator such that an amplitude modulated clock signal is produced; and outputting the amplitude modulated clock signal wherein the output amplitude modulated clock signal preserves information present within the input optical signal (see claims 1, 16 and 17 of Leuthold).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Joyner et al (US Patent 6,437,905).

Regarding claim 1, referring to figure 1, Joyner discloses a method of optical signal regeneration comprising the steps of:

generating a phase and amplitude encoded clock signal from at least an input optical signal (Fig. 1);

introducing the encoded clock signal into a delay interference section of the regenerator (i.e., delayed interference loop 120, Fig. 1) such that an amplitude modulated clock signal is produced; and

outputting the amplitude modulated clock signal wherein the output amplitude modulated clock signal preserves information present within the input optical signal (see col. 2, lines 14-48).

Regarding claim 3, Joyner teaches further comprising the steps of:  
optically amplifying the amplitude modulated clock signal (Fig. 1).

6. Claims 1, 3, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Roberts et al (US Patent 6,229,633).

Regarding claim 1, referring to figures 3, 4, 10, 12, 19 and 20, Roberts discloses a method of optical signal regeneration comprising the steps of:

generating a phase and amplitude encoded clock signal from at least an input optical signal (Figs. 10, 12, 19 and 20);

introducing the encoded clock signal into a delay interference section of the regenerator (i.e., delay 93, Fig. 9) such that an amplitude modulated clock signal is produced; and

outputting the amplitude modulated clock signal wherein the output amplitude modulated clock signal preserves information present within the input optical signal (see col. 5, lines 15-64, col. 7, lines 47-67, col. 8, lines 1-37, col. 9, lines 59-67 and col. 10, lines 1-27).

Regarding claim 3, Roberts teaches further comprising the steps of:  
optically amplifying the amplitude modulated clock signal (Figs. 9, 10, 12, and 19).

Regarding claims 7 and 8, Roberts further teaches applying the input optical signal to a coupling section of an optical regenerator (Figs. 12, 19 and 20), and applying a clock signal to a modulation section of the optical regenerator.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Roberts et al (US Patent 6,229,633) in view of Cho et al (US Patent No. 6,335,819).

Regarding claim 4, Roberts differs from claim 4 in that he does not specifically teach polarizing the amplitude modulated clock signal. However Cho teaches polarizing

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the amplitude modulated clock signal (Figs. 1 and 8, col. 1, lines 55-60, col. 5, lines 47-63, col. 7, lines 8-67 and col. 8, lines 1-610. Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the polarizing the amplitude modulated clock signal as taught by Cho in the system of Roberts. One of ordinary skill in the art would have been motivated to do this Cho suggests in column 7, lines 8-64 that using such polarizing the amplitude modulated clock signal have advantage of allowing maintain polarization in a predetermined state and to re-shaping, re-amplifying and re-timing the input optical signal.

9. Claims 2, 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Watanabe (US Patent No. 6,608,854) discloses method, device, and system for waveform shaping of signal light.

Yano (US Patent No. 6,108,125) discloses optical regenerative repeater.

Miyazaki et al (US Patent No. 6,532,091) discloses optical digital regenerator.

Edagawa et al (US Patent No. 6,515,793) discloses optical waveform shaper.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (703)306-5840.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.



Hanh Phan

11/17/2003